

Ming Li
USSN 08/974,179
Filed November 19, 1997

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1. (Currently Amended): A method of trimming an edge of an aluminum sheet comprising:

providing a die adjacent to one side of a cutting blade;

securing the aluminum sheet in a the die adjacent a the cutting blade at a cutting angle of from about 10 to about 30 degrees measured from a plane perpendicular to a cutting direction of the cutting blade and with a cutting blade clearance of at least 5 percent of the thickness of the aluminum sheet measured between the blade and the die; and

trimming the aluminum sheet at the cutting angle and with the cutting blade clearance to thereby produce a trimmed aluminum sheet with substantially no slivers.

2. (Original): The method of claim 1, wherein the cutting angle is from about 15 to about 25 degrees and the clearance is from about 5 to about 20 percent of the thickness of the aluminum sheet.

3. (Original): The method of claim 2, wherein the cutting blade has a maximum edge radius of up to about 0.25mm.

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4. (Original): The method of claim 2, wherein the cutting angle is from about 10 to about 15 degrees and the clearance is from about 7.5 to about 17.5 percent of the thickness of the aluminum sheet.

5. (Original): The method of claim 4, wherein the cutting blade has a maximum edge radius of up to about 0.125mm.

6. (Withdrawn): The method of Claim 1, wherein the cutting angle is from about 5 to about 10 degrees and the clearance is from about 10 to about 17.5 percent of the thickness of the aluminum sheet.

7. (Withdrawn): The method of Claim 6, wherein the cutting blade has a maximum edge radius of up to about 0.125 mm.

8. (Withdrawn): The method of Claim 1, wherein the cutting angle is from 0 to about 5 degrees and the clearance is from about 12.5 to about 17.5 percent of the thickness of the aluminum sheet.

9. (Withdrawn): The method of Claim 8, wherein the cutting blade has a maximum edge radius of up to about 0.1 mm.

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10. (Currently Amended): A method of trimming an edge of an aluminum sheet comprising:

providing a die and a pad adjacent to one side of a cutting blade;

securing the aluminum sheet between a the die and a the pad at a cutting angle of from about 10 to about 30 degrees adjacent a cutting blade wherein the cutting angle is measured from a plane perpendicular to a cutting direction of the cutting blade that is adjacent to the aluminum sheet, and with a cutting blade clearance of at least about 5 percent of the thickness of the aluminum sheet measured between the blade and the die; and

trimming the aluminum sheet at the cutting angle and with the cutting blade clearance to thereby produce a trimmed aluminum sheet with substantially no slivers.

11. (Canceled)

12. (Previously Presented): The method of Claim 10, wherein the cutting angle is from about 15 to about 25 degrees.

13. (Previously Presented): The method of Claim 10, wherein the clearance is at least about 10 percent of the thickness of the aluminum sheet.

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14. (Original): The method of claim 13, wherein the clearance is less than about 20 percent of the thickness of the aluminum sheet.

15. (Original): The method of claim 13, wherein the clearance is from about 10 to about 17.5 percent of the thickness of the aluminum sheet.

16. (Original): The method of claim 15, further comprising providing the cutting blade with an edge radius of up to about 0.25mm.

17. (Original): The method of claim 10, further comprising providing the cutting blade with an edge radius of up to about 0.75mm.

18. (Withdrawn): The method of Claim 10, wherein the aluminum sheet comprises an alloy selected from the group consisting of Aluminum Association alloys 6111 and 6022.

19. (Withdrawn): The method of Claim 18, wherein the aluminum sheet comprises aluminum alloy 6111-T4.

20. (Withdrawn): The method of Claim 18, wherein the aluminum sheet comprises aluminum alloy 6022-T4.

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21. (Withdrawn): The method of Claim 10, wherein the aluminum sheet comprises an autobody sheet.

22. (Withdrawn): A method of trimming aluminum sheet comprising:
securing the aluminum sheet between a die and a pad;
trimming the aluminum sheet with a cutting blade having a clearance between the cutting blade and the die of at least about 15 percent of the thickness of the aluminum sheet; and
recovering the trimmed aluminum sheet with substantially no slivers.

23. (Withdrawn): The method of Claim 22, wherein the clearance is from about 15 to about 20 percent of the thickness of the aluminum sheet.

24. (Withdrawn): The method of Claim 23, further comprising providing the cutting blade with a tool sharpness of up to about 0.075 mm.

25. (Withdrawn): An apparatus for reducing sliver production during trimming of aluminum sheet comprising:
means for cutting the aluminum sheet; and
means for securing the aluminum sheet adjacent the cutting means at a cutting angle of at least about 10 degrees.

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26. (Withdrawn): The apparatus of Claim 25, wherein the means for securing the aluminum sheet comprises a die and pad for holding the aluminum sheet therebetween.

27. (Withdrawn): The apparatus of Claim 26, wherein the die and pad secure the aluminum sheet at a cutting angle of from about 15 to about 25 degrees.

28. (Withdrawn): The apparatus of Claim 27, further comprising a clearance between the cutting blade and the die of at least about 10 percent of the thickness of the aluminum sheet.

29. (Withdrawn): The apparatus of Claim 28, wherein the clearance is less than about 20 percent of the thickness of the aluminum sheet.

30. (Withdrawn): The apparatus of Claim 28, wherein the clearance is from about 10 to about 17.5 percent of the thickness of the aluminum sheet.

31. (Withdrawn): The apparatus of Claim 30, wherein the cutting blade has an edge radius of up to about 0.25 mm.

32. (Withdrawn): The apparatus of Claim 25, wherein the cutting blade has an edge radius of up to about 0.75 mm.

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33. (Withdrawn): The apparatus of Claim 25, wherein the aluminum sheet comprises an alloy selected from the group consisting of Aluminum Association alloys 6111 and 6022.

34. (Withdrawn): The apparatus of Claim 33, wherein the aluminum sheet comprises aluminum alloy 6111-T4.

35. (Withdrawn): The apparatus of Claim 33, wherein the aluminum sheet comprises aluminum alloy 6022-T4.

36. (Withdrawn): The apparatus of Claim 25, wherein the aluminum sheet comprises an autobody sheet.

37. (Withdrawn): A trimmed aluminum sheet substantially free of slivers produced by securing an aluminum sheet at a cutting angle of at least about 10 degrees adjacent a cutting blade, and trimming the aluminum sheet at the cutting angle with the cutting blade.

38. (Withdrawn): The trimmed aluminum sheet of Claim 37, wherein the cutting angle is from about 15 to about 25 degrees.

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39. (Withdrawn): The trimmed aluminum sheet of Claim 38, wherein the aluminum sheet is secured with a cutting blade clearance of at least about 10 percent of the thickness of the aluminum sheet.

40. (Withdrawn): The trimmed aluminum sheet of Claim 39, wherein the clearance is less than about 20 percent of the thickness of the aluminum sheet.

41. (Withdrawn): The trimmed aluminum sheet of Claim 40, wherein the cutting blade has an edge radius of up to about 0.25 mm.

42. (Withdrawn): The trimmed aluminum sheet of Claim 37, wherein the aluminum sheet comprises an alloy selected from the group consisting of Aluminum Association alloys 6111 and 6022.

43. (Withdrawn): The trimmed aluminum sheet of Claim 42, wherein the aluminum sheet comprises aluminum alloy 6111-T4.

44. (Withdrawn): The trimmed aluminum sheet of Claim 42, wherein the aluminum sheet comprises aluminum alloy 6022-T4.

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45. (Withdrawn): The trimmed aluminum sheet of Claim 37, wherein the aluminum sheet comprises an autobody sheet.

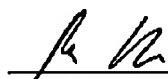
In the event that any outstanding matters remain in connection with this application, the Examiner is invited to telephone the undersigned at (724) 337-1221 to discuss such matters.

Respectfully submitted,

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PATENT TRADEMARK OFFICE



Robert A. Diaz, Esq.
Attorney for Applicants
Reg. No. 55,109
Telephone: 724-337-1221